

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended). A method of assessing a sensory nervous system of a subject, including:

simultaneously presenting two or more parts of the sensory system with respective sequences of spatially sparse stimuli using a stimulator,

varying using a processor each sequence over time between a null stimulus and one or more less frequent non-null stimuli,

controlling using said processor the variation of each sequence so that neighbouring parts of the sensory system are less likely to receive simultaneous non-null stimuli,

measuring using a monitor one or more simultaneous responses by the subject to the sequences of spatially sparse stimuli, and

determining using said processor weight functions from the responses for assessment of the sensory system.

Claim 2 (currently amended). [A] The method according to claim 1, wherein the non-null stimuli appear in each sequence at a rate of about 0.25 to 25 per second.

Claim 3 (currently amended). [A] The method according to claim 1, wherein the probability of neighbouring parts in the sensory system having simultaneous non-null stimuli is zero.

Claim 4 (currently amended). [A] The method according to claim 1, wherein the sensory system is a visual system and multiple parts of a retina are presented with spatially sparse stimuli.

Claim 5 (currently amended). [A] The method according to claim 1, wherein the sensory system is a visual system and the sequences ~~includes~~ include either binocular or dichoptic stimuli.

Claim 6 (currently amended). [A] The method according to claim 1, wherein the sensory system is an aural or tactile system and the ears or skin are presented with spatially sparse stimuli.

Claim 7 (currently amended). [A] The method according to claim 1, wherein the parts of the sensory system are selected from the group consisting of ~~in~~ the retina, the ears, the skin, ~~or~~ and the brain of the subject.

Claim 8 (currently amended). [A] The method according to claim 1, wherein the spatially sparse stimuli are selected from a range of signals such as including light, ~~or~~ sound frequency, ~~or~~ and pressure.

Claim 9 (currently amended). [A] The method according to claim 1, wherein the parts of the sensory system receiving spatially sparse stimuli form a region divided into classes and only one of the classes has a non-zero probability of receiving stimuli at any time.

Claim 10 (currently amended). [A] The method according to claim 1, wherein the responses are nonlinear and the weight functions are Wiener or Volterra kernels.

Claim 11 (currently amended). ~~Apparatus~~ An apparatus for assessing a sensory nervous system of a subject, including:

a stimulator that simultaneously presents two or more parts of the sensory system with respective sequences of spatially sparse stimuli,

a monitor that measures one or more simultaneous responses by the subject to the said sequences of spatially sparse stimuli, and

a processor ~~that varies~~ adapted to:

vary each sequence over time between a null stimulus and one or more less probable non-null stimuli,

~~controls~~ control the variation of each sequence so that neighbouring parts of the sensory system are less likely to receive simultaneous non-null stimuli,
and

~~determines~~ determine weight functions from the responses for assessment of the sensory system.

Claim 12 (cancelled).

Claim 13 (currently amended). ~~Apparatus~~ The apparatus according to claim 11, wherein the said monitor measures responses to the said spatially sparse stimuli by way of electrode potentials on the head of the subject.

Claim 14 (new). The apparatus according to claim 11, wherein the non-null stimuli appear in each sequence at a rate of about 0.25 to 25 per second.

Claim 15 (new). The apparatus according to claim 11, wherein the probability of neighbouring parts in the sensory system having simultaneous non-null stimuli is zero.

Claim 16 (new). The apparatus according to claim 11, wherein the sensory system is a visual system and multiple parts of a retina are presented with spatially sparse stimuli.

Claim 17 (new). The apparatus according to claim 11, wherein the sensory system is a visual system and the sequences include either binocular or dichoptic stimuli.

Claim 18 (new). The apparatus according to claim 11, wherein the sensory system is an aural or tactile system and the ears or skin are presented with spatially sparse stimuli.

Claim 19 (new). The apparatus according to claim 11, wherein the parts of the sensory system are selected from the group consisting of the retina, the ears, the skin, and the brain of the subject.

Claim 20 (new). The apparatus according to claim 11, wherein the spatially sparse stimuli are selected from a range of signals including light, sound frequency, and pressure.

Claim 21 (new). The apparatus according to claim 11, wherein the parts of the sensory system receiving spatially sparse stimuli form a region divided into classes and only one of the classes has a non-zero probability of receiving stimuli at any time.

Claim 22 (new). The apparatus according to claim 11, wherein the responses are nonlinear and the weight functions are Wiener or Volterra kernels.